Backyard vegetation, wetlands, and the West Nile Virus

What is West Nile Virus?

West Nile Virus (WNV) was first reported in the eastern United States in 1999. The risk to humans from West Nile virus is low. Only 20 percent of those infected will develop flu-like symptoms. In less than one percent of cases West Nile virus will cause meningitis, a severe and potentially fatal illness. Most people are able to fight off the virus without even knowing they have it.

Mosquitoes and flat flies carry the virus, although less than one percent of mosquitoes are infected. Mammals do not transmit the disease; however, cases of transmission through blood transfusion and breast milk have been known.

Despite the low risks, West Nile Virus has become a health concern in the past year, and many predict that WNV is here to stay. What can we do to protect ourselves, and how can we reduce areas of mosquito-breeding habitat on our properties?

How is West Nile Virus Transmitted?

The likeliest transmitters of the WNV to humans are considered to be *Culex pipiens* or the Northern House mosquito, along with closely related species *Culex restauns* and *Culex salinarious*. These mosquitoes are common in Canada's urban and suburban areas, and feed mostly on birds, although they do also bite people. It is for this reason they are suspected of spreading the WNV.

Where do the Mosquitoes Live?

The larvae of *Culex pipiens and Culex restauns* can be found in standing water in containers such as eavestroughs and bird baths, and in ditches, rain puddles and ponds. They thrive in water polluted with organic wastes. **Mosquitoes require still, standing water to reproduce; they do not breed in shrubbery or long grass, nor in deeper water.**

The mosquitoes thought to be responsible for transmitting WNV are also rarely found in healthy wetlands. In healthy wetlands, water fluctuates regularly, which deters these virus-carrying mosquito species. Wetlands are also home to a host of species that feed on mosquitoes – beetles, backswimmers, water striders, dragonfly larvae, frogs, fish and certain bird species. In some areas, wetland restoration projects have significantly reduced mosquito populations. In one project in Massachusetts, restoration of a 1,500 acre wetland resulted in a 90% drop in the mosquito population. This makes wetlands significantly less ideal breeding sites for *Culex* mosquitos than our backyards!

Tips to Prevent West Nile Virus

You can protect yourself from West Nile Virus:

- Wear protective clothing.
- Use a mosquito repellent.
- Install screens of fibreglass or aluminum mesh on windows.
- Consider staying indoors at dawn and dusk, when mosquitoes are most active.
- Treat all dead birds with caution. Do not touch a dead crow or raven with your bare hands. Note the location and call your local health authority or carry it in a plastic bag to your local SPCA.

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Tips for Controlling Mosquitoes

Get rid of places where mosquitoes can breed. Doing this can significantly reduce mosquito populations on your property:

- Replace standing water *at least* once a week – in bird baths, plant saucers, pet water dishes, pool covers or flat roofs.
- Turn over, stack upside down, drill holes in the bottom of, or remove outside containers that can collect water, such as old tires, plant pots, buckets, barrels, tin cans or wheelbarrows.
- Cover boats and canoes, or store them upside down.
- Cover rainwater barrels, cisterns or fire barrels with nylon or aluminum fly screen.
- Consider replacing a tire swing with something that will not hold water.
- Empty and clean wading pools *at least* once each week.
- Maintain your backyard pool properly.
- Clear leaves and twigs from eavestroughs, storm and roof gutters throughout the summer to prevent water from pooling there.
- Make sure that drainage ditches are not clogged, leaving standing pools of water.
- Turn over compost piles on a regular basis.
- Fill in any low depression areas in lawns.

Use natural mosquito predators as your allies.

- Stock garden pools and lily ponds with small fish, including top water feeding ones.
- Put emergent plants like cattails and bulrushes in your pond. Mosquito eaters such as dragonflies and other predatory insects are attracted to them.
- Install bat and bird houses on your property. Bats, and birds such as swallows and purple martins, eat millions of mosquitos.

➜Avoid clearing dense shrubs and brush on your property to reduce mosquito populations; try these tips first. You may unnecessarily clear out a lot of vegetation – and still find you have a mosquito problem. Dense shrubbery can provide habitat for many birds and insects which prey on mosquitoes.

Mosquitoes can develop in any puddle that lasts more than 7-10 days in the summer.

Most mosquitoes in the wild feed on animals found in their natural habitat, and not people.

Some bats can eat as many as 600 mosquitoes per hour – perhaps even more!

Sources:

Health Canada Pest Management Regulatory Agency
Health Canada Info on WNV:
<www.hc-sc.gc.ca/pphb-dgspsp/publicat/info/wnvrsk_e.html>
Centre for Disease Control and Prevention, Fort Collins, Colorado
Ducks Unlimited:
<www.ducks.org.news/west_nile_virus_september_2002.asp>
Wildlife Rescue Association – news release of Apr 23/03

The Living by Water Project
April 2003
www.livingbywater.ca